NUCLEAR DIVISION NEWS

UNION CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

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ENGINEERING TECHNICIAN AWARD — The American Society of Certified Engineering Technicians (ASCET) has presented its National Award to the Nuclear Division. Shown accepting the award is Roger F. Hibbs, President of the Nuclear Division. From left are: J. C. Thompson, National Director of ASCET; D. L. Aubuchon, President of the Oak Ridge-Knoxville Chapter; Mr. Hibbs; and B. H. Montgomery, Southeast Regional Vice President of ASCET. The award was made for "outstanding assistance and contributions to the promotion and development of the engineering technician."

20 Inner City Disadvantaged Selected for Training Program

In a repeat of 1969's successful experiment, 20 more disadvantaged young men have been recruited, primarily from Chicago's inner city, for industrial-skill and technical training in the Training and Technology Program.

The recruits, most of whom are between 18 and 25 years of age, were selected by the Atomic Energy Commission's National Accelerator Laboratory and Argonne National Laboratory, and will enroll in the TAT training cycle which begins in April.

Last year, the National Accelerator Laboratory recruited 24 Chicago inner-city blacks for the pilot experimentation program. Twenty-two trainees completed the program and are now employed by NAL.

Job Awaits Graduates

The new group includes a few Indians and Mexican-Americans in addition to the blacks. NAL selected 12 trainees, and the Argonne facility recruited 8. Those completing training will fill skilled technical jobs at the two AEC facilities in Illnois.

TAT will provide job instruction and related training in electronics, machining, mechanical operations, and drafting. As in previous cycles, training will be conducted by Union Carbide personnel at the Oak Ridge Y-12 Plant. Shop and laboratory instruction will be supplemented with individual counseling and extensive classroom and directed study in trade-related industrial mathematics, communications, and science.

The goal of TAT's worker-training program is to train the unemployed and underemployed to fill skilled industrial jobs. The Chicago effort is designed to demonstrate TAT's effectiveness as a satellite training center for other AEC contractors and for industry in general.

Training Period Varies

The training period may vary for each member of the Chicago group, with the average period expected to be about 6 months. In cooperation with NAL and ANL, TAT will evaluate the trainees frequently so they can be placed on jobs as soon as they appear ready for full-time assignments.

TAT's worker-training program, conducted by Oak Ridge Associated Universities and the Nuclear Division, is being supported through an interagency agreement between the AEC and the U.S. Department of Labor under the Manpower Training and Development Act. Since TAT began in 1966, more than 900 graduates of its worker-training program have been placed in job areas of critical need to modern, technology-based industry.

Rare Isotope Now Offered For Teaching

The Atomic Energy Commission is making available to educational institutions on an extended loan basis small quantities of californium-252 for teaching and other educational activities.

Californium-252 is an isotope of a man-made element, californium, and is an intense neutron emitter. This characteristic has made the isotope a promising tool in many applications in medicine, industry, and research.

The material to be loaned is now held by three medical institutions, the M. D. Anderson Hospital and Tumor Institute, Brookhaven National Laboratory, and the Hospital of the University of Pennsylvania, which are investigating the effectiveness of californium encapsulated into needles for cancer therapy.

The needles will be returned around 1971. Since the needles generally will contain less than a microgram of californium and it would be uneconomical to recover this material, AEC will make them available on loan at that time to educational institutions. (A microgram is one millionth of a gram. There are about 454 grams in a pound.)

Because of the potential benefit to educational institutions and the AEC's californium market evaluation program, the AEC is making these sources available under an existing loan program offering a wide variety of nuclear material to universities. Already on loan are uranium slugs, small cylinders of natural uranium used in nuclear physics experiments; special nuclear material such as uranium-233, uranium-235 and plutonium; and also graphite and heavy water.

In addition to loaned californium sources, direct sale quantities of the isotope limited to one microgram or less are available from Oak Ridge National Laboratory for $100 per one-tenth of a microgram.

Two Production Plants Help Make Technology Available

The Nuclear Division production facilities in Oak Ridge answered more than 600 requests for information from industrial, scientific and educational sources during the last year.

The assistance was provided as part of the Division's effort to make unclassified technology available to industry and to other sources.

In addition to publication of more than 43 detailed reports, the Oak Ridge Gaseous Diffusion Plant answered more than 340 requests for information. Staff members at the facility presented 41 papers at professional meetings, and published an additional 10 papers.

A total of 157 requests for information was received from organizations in the United States. An additional 187 requests were received from 32 foreign countries.

The Oak Ridge Y-12 Plant released 47 detailed reports on such subjects as computer programming, materials development and evaluation, automated instrument systems, chemical analysis and powder metallurgy.

Y-12 scientists and engineers presented 41 technical papers at professional society meetings and authored 11 journal articles.

A technical motion picture produced at the Y-12 Plant, entitled "The Safe Handling of Enriched Uranium," was incorporated into the Atomic Energy Commission's International film library.

The Y-12 Plant answered approximately 300 requests for information from various sources.

Most of the published reports prepared by the two facilities are available from the Clearinghouse for Scientific and Technical Information, National Bureau of Standards, U. S. Department of Commerce, Springfield, Va. 22151.

New AEC Film Arrives

A new, 25-minute color film, "Computer Fluid Dynamics," is now available at the Atomic Energy Commission's Film Library in Oak Ridge. Produced by the Los Alamos Scientific Laboratory, the movie demonstrates the power of today's giant electronic computers for solving fluid flow problems that previously were impractical to undertake. Borrowers may use the film free of charge, except for return postage.

Development Aided By Union Carbide

A significant development in heat exchange technology for the $100-million, large tonnage air conditioning industry has been developed jointly by Union Carbide Corporation and Universal Oil Products Company.

The development involves an unprecedented improvement in the heat transfer efficiency of copper tubing, used extensively in the evaporator, or water chiller, of large air conditioning systems. About 75 percent less tubing is now required to perform a given job, which permits substantial reduction in both the size and cost of water chillers.

Toll Enrichment Reaches $60 Million

More than $60 million worth of toll enrichment services was provided during 1969, the first year of the program. Of the total, $46.3 million was for enriched uranium delivered to firms in this country. The remaining $14.5 million was sold directly to customers abroad.

The services were provided by the Oak Ridge and Paducah Gaseous Diffusion Plants, as well as the one located at Portsmouth, Ohio. The Oak Ridge Gaseous Diffusion Plant provided most of the service. Approximately $45 million was received for toll enrichment services at the plant during the year.

Furnishes Feed Material

Under the program, the customer furnishes uranium feed material, pays an enriching charge to the Atomic Energy Commission, and receives enriched uranium in return. Most of the product is later fabricated into fuel for nuclear power plants.

Domestic firms purchasing the enriching services in 1969 and the total provided for each were: General Electric Company, $21.3 million; Commonwealth Edison Company, $10.8 million; Westinghouse Electric Corporation, $10.3 million; Kerr-McGhee Corporation, $2.2 million; Babcock & Wilcox Company, $1.1 million; and United Nuclear Corporation, $675,000.

In some instances, the United States purchasers will fabricate their acquisitions into fuel elements for use at nuclear power plants abroad. Approximately $18.8 million in domestic transactions fall in this category, bringing the total for eventual use in other nations to $33.3 million.

U. S. Largest User

A breakdown of all 1969 toll enrichment activity to indicate final destination of the enriched uranium shows that the United States remained the largest user with $27.5 million in services. Japan was second with $13.6 million.

About $8.6 million in services was purchased for nations of the European Atomic Energy Community (EURATOM) divided among Germany, $7.3 million; France, $1.1 million; and The Netherlands, $268,000. Enrichment services for other nations during the year were Spain, $5.1 million; Sweden, $4.5 million; and Switzerland, $1.5 million.

Intergovernmental Pacts

Enriched uranium destined for overseas use is distributed in accordance with intergovernmental agreements for cooperation with appropriate safeguards to assure peaceful applications of the material.

Projections based on anticipated growth in the nuclear power industry both in the United States and abroad indicate that by 1980 the annual revenue from enrichment services will approach $1 billion.

Culler, Others Named to New Posts at ORNL

Floyd C. Culler has been appointed Deputy Director of Oak Ridge National Laboratory, effective in mid-May.

ORNL Director Alvin M. Weinberg announced Culler's appointment and other organizational changes last week. Culler will replace H. G. MacPherson, who is taking a leave of absence from the Laboratory to become professor of Nuclear Engineering at The University of Tennessee.

Additional appointments, also effective in May, include: J. L. Liverman, Associate Director for the Biological and Environmental Sciences; A. H. Snell, Associate Director for the Basic Physical Sciences; D. B. Trauger, Associate Director for the Reactor and Engineering Sciences; and F. R. Bruce, Associate Director for Administration.

Nuclear Pioneer

Culler, a native of Washington, D. C., has been in the atomic energy program at Oak Ridge continuously since 1943. His first major contribution was in the design, construction and testing of the chemical plant in which fully enriched U-235 from both the electromagnetic and gaseous diffusion plants was processed. He next directed the design, construction and initial testing of the Idaho plant for processing fully enriched and irradiated uranium.

In 1953 he became Director of the Chemical Technology Division of ORNL where he was in charge of design of separation processes for irradiated fuels. He is presently serving as an Assistant Laboratory Director.

Served at Geneva

Culler has achieved distinguished recognition at national and international levels for his leadership and contributions in separations process technology. He has been a U.S. delegate to several International Conferences on the Peaceful Uses of Atomic Energy held at Geneva. In 1965 he was named one of five scientists to receive AEC's E. O. Lawrence Memorial Award, and in 1969 he was one of the recipients of the Atoms for Peace Award.

He is a member of the Institute of Chemical Engineering, the American Chemical Society, the Society for Metals and the American Nuclear Society.

LEFT BEHIND

The radioisotopic thermoelectric generator left behind on the moon by astronauts on the Apollo 12 flight is fueled with plutonium-238. It represents the first use of nuclear electric power on the moon. The generator has no moving parts.

NEWS

Published Bi-Weekly For The Employees Of UNION CARBIDE CORPORATION

UNION CARBIDE

NUCLEAR DIVISION

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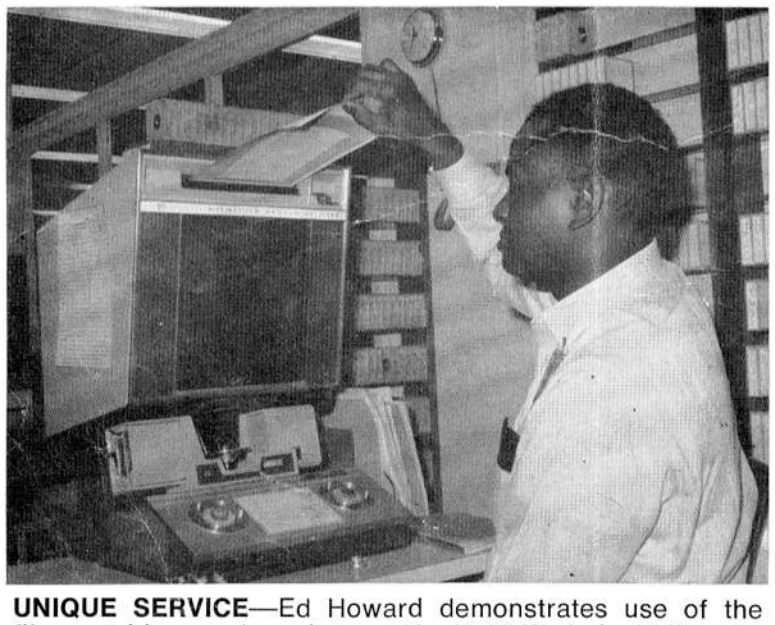
A FRIENDLY FACE—Mrs. Margaret Overton greets a visitor at the Y-12 Technical Library's circulation desk.

STUDY AREA—Biologists monitor current literature regularly at the Biology Division Library. Shown here are Dr. R. A. Popp and, in background, from left, library staffers Azolene Vest and Eunice Webster.

READING ROOM—Mrs. Marie Cardwell helps library visitor with reference problem at the Y-12 Technical Library.



UNIQUE SERVICE—Ed Howard demonstrates use of the film cartridge reader-printer at the Y-12 Technical Library.

Nuclear Division Librarians Wear Many 'Service Hats'

By JOHN HAFFEY

Part-time detectives, problem solvers, philosophers—that's a unique but appropriate description of the Nuclear Division's library staff members.

Each day they face persons needing help in cases similar to the following:

- "This is a copy of a page from a journal I borrowed three or four year ago. Could you help me find the journal?"
- "What does abscopal mean? It's in this technical report but I can't find a definition." (By the way, the word means resulting from an "indirect effect.")
- "I'm looking for a book by a guy named Brown . . . or is it Smith?"
- "Do you have any books on hydroponics?" (It's the term for plant growth in nutrient solutions.)
- "Show me ALL your books on environmental pollution."

Library staffers generally face situations like these with a smile and dig right in to find the information needed. Why? "Our job is to help researchers and technical people find the information they need," agree all the librarians interviewed at several of the Nuclear Division facilities. And where time and circumstances permit, they have proven time and time again a willingness to go the extra mile.

5 Major Libraries

There are five major libraries operated by professional library staff. The Oak Ridge Gaseous Diffusion Plant has one central library (Bldg. K-1002), and Oak Ridge National Laboratory's Technical Information Division administers the Central Research Library (Bldg. 4500) and its three branches in the Y-12 area: The Biology Division Library (Bldg. 9207); the Y-12 Technical Library (Bldg. 9711-1); and the new Thermonuclear Library (Bldg. 9201-2).

Chief librarians are Ray Fraser for ORGDP and Ray Dickison for ORNL. Those in charge of ORNL's branch libraries are Helen Kuhns, Biology; Annamaria Pluhar, Thermonuclear; and John Bobb, Y-12 Technical. Bobb is assistant chief librarian for ORNL and serves in a dual capacity as Y-12 Technical Librarian.

The combined resources of the Nuclear Division libraries now amount to about 180,000 volumes, 4,000 periodicals, and 625,000 Atomic Energy Commission reports and allied documents. A staff of about 40 administers this collection.

Job Is 'To Help'

How do Nuclear Division facilities compare with conventional libraries? "Our job is basically the same—to help people find and utilize information," summarizes Miss Kuhns of the Biology Library. "Our subject matter, generally speaking, is narrower in scope than, say, that required for a public library, but our coverage of that scope must be much deeper."

Internally the branches are similar to one another. All branches provide services such as reference and circulation, book location and classification, and information connected with periodicals, translations, and reprints.

And, of course, each library has its own unique group to serve. The Biology staff, for example, serves not only ORNL's largest division but also The University of Tennessee-Oak Ridge Graduate School of Biomedical Sciences and other Carbide employees.

Service For All

Although the libraries serve different groups, there is a common denominator for all of them. "Our unifying goal is service and support for all activities within the Nuclear Division," says Fraser at ORGDP.

"When we don't have what is needed at ORGDP, we fill the needs through interlibrary loans," he said. "We cooperate very closely with the ORNL libraries and those at The University of Tennessee and Oak Ridge Associated Universities."

Several of the libraries prepare lists of new publications and current materials, from which the Nuclear Division News prints a representative sampling in each issue. The ORGDP Library, for example, publishes two bulletins: the "Weekly Acquisitions List" of new books and unclassified technical reports and the "Contents of Selected Periodicals." The other libraries perform similar services.

At the Y-12 Library, Bobb likes to talk about all of the libraries' new techniques and services, particularly his branch's modern microprint and photocopying equipment. "On hand here, at Biology, and at ORNL's Central Research Library are microfiche and microfilm reader-printers, as well as photo-reproducers," he said. "A staff member will gladly demonstrate these easily operated units to those desiring to use them and will arrange for the copying of library materials."

Sense of Humor

When you're working with people as much as librarians are, you have to have a sense of humor.

One "in-house" joke is about the young librarian who filed Omar Khayyam's, "The Rubaiyat," under "Boats and Boating." And Miss Kuhns tells the true story about a young Biology Division technician who came in to pay for a book that had been chewed to pieces by the technician's dog. The book's title? "Nutrition of the Dog," by Clive Maine McKay.

At ORNL's Y-12 branch, Bobb recalls the confusion raised when several people wanted to meet "Pam Case." It turns out that the library cards referring to the vertical files had the words "see Pam Case." Pam was just an abbreviation for pamphlet, not a new employee.

LIBRARY SERVICE — The ORGDP Library regularly prepares a list of new books and other library materials for Nuclear Division employees. Here Viola Elliott, circulation librarian, records names of persons interested in seeing new publication. In background, from left, are George Marshall, cataloguer, and Ray Fraser, chief librarian.

UNION CARBIDE

—Y-12 BULLETIN

Thursday, March 12, 1970

Some Insurance Premiums Are Allowable In Itemizing Deductions On Income Tax

Y-12ers itemizing their deductions in preparing their income tax returns may be interested in the following allowable insurance premiums.

These may be used only if you itemize your deductions.

Sickness and Accident Insurance	
Monthly Salaried Employees	$13.02
Weekly and All Hourly Employees	13.50
Major Medical (Monthly and Weekly Salaried Employees)	
Single Coverage	11.88
Family Coverage	34.32
Special Medical (All Hourly Employees)	
Single Coverage	13.80
Family Coverage	35.88

Credit Union Makes More Money Available

The money crunch is becoming more noticeable every day. As a consequence, the Y-12 Credit Union has arranged to make more money generally available to its members in the form of larger signature loans for any reasonable purpose. As always, each member is considered as an individual, and his needs, his financial responsibility, his length of Company service, etc., are all taken into account when he visits the Credit Union. Any Y-12 employee is eligible for membership in the Credit Union and, as a member, may either establish savings accounts, or, after at least 90 days with the Company, may make arrangements for loans. Generally, the longer a member has been employed at Y-12 the larger the loan for which he is eligible.

The Credit Union on Lafayette Drive at Illinois Avenue is open from 9 a.m. to 5:15 p.m. on Monday thru Friday. The telephone numbers are extension 3-7204, Oak Ridge 482-1014, or Knoxville 546-7050. Y-12ers are urged to check with the Credit Union whenever they need money for any worthwhile purpose, and to find out about the liberalized lending policies.

MAN'S CASTLE

Pre-fabricated modular housing systems and rigid urethane foam materials are enabling home builders to take a dramatic new approach to low-cost housing. Some contractors claim that four men can complete a fully insulated two-bedroom home in as little as six hours at less cost than one built with conventional materials.

Successful Game Nite Enjoyed By Shiftmen

E, F, G, H and J Shiftfolk found as interesting crowd on hand for the big game night on February 7.

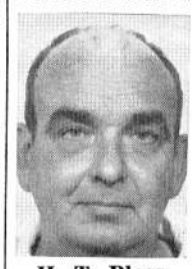
Mark Hardin, John Shepard and Bob Birdwhistell all took two big awards each.

Single winners included Geri Dowrey, a steam iron; Donna Dowrey, a mirror; Mary Hensley, an electric blanket; Chester Edwards, a percolator; J. E. Morgan, pressure cooker; H. N. Benninghoff, tape recorder; Edna Powell, cooking utensils; Kim Hardin, pendant watch; Jack Spears, electric heater; Charles Neeley, electric fryer; Alice Mattingly, desk light; and Tom Crisp, a vacuum cleaner.

The affair was held at the Elk's Lodge with more than 148 people attending.

H. T. Pless Rites Held In Knoxville

Hal T. Pless, General Machine Shop, died Tuesday, March 3, after a short illness. He had been in Y-12 since October 23, 1963. He worked in and around Knoxville during the 30s, for the Glenn L. Martin Company, Maryland, from 1940 until 1947, and for the Pullman Standard Car Co., the Alabama Metal Lathe Company, Birmingham, before coming here.



H. T. Pless

Survivors include his wife Mrs. Annette Moody Pless, 2015 Fenwood Drive, Knoxvill; a daughter Mrs. Judity Love; a son, Lt. Cmdr. Michael T. Pless, Alexandria, Va., with the U.S. Navy; his mother, Mrs. R. T. Pless, Knoxville, and a sister, Mrs. Charles Henderson, Arlington, Va.

Funeral services were held Thursday at the chapel of Rose Mortuary, Knoxville, with the Reverend Marvin Gass, pastor of Colonial Heights Methodist Church, officiating. Burial followed in Woodlawn Cemetery.

Sincere sympathy is extended the Pless family.

If you care to keep working, work with care.

SAFETY SCOREBOARD

The Y-12 Plant Has Operated

68 Days Or

2,404,000 Man-Hours

(Unofficial Estimate)

Through March 8

Without A Disabling Injury

SAFETY AT HOME, AT WORK, AT PLAY

Metal Preparation Names Dobbs, Wormsley Foremen

The Metal Preparation Division has announced the promotion of James T. Dobbs, Jr. and William F. Wormsley. Both men, in Beta Four Forming, were made processing foremen effective March 1.

Dobbs, born in Sloans Valley, Ky., came to Y-12 June 29, 1954, after working in Somerset and Whitley City, Ky. He is a navy veteran, serving from 1942 until 1946 in the Atlantic during the war.

Mrs. Dobbs is the former Lorena Casada. The couple lives at 102 Paintrock Road, Kingston. Rodney, the oldest son is attending Tennessee Technological University, Cookeville; and Marsha, a senior, and Mark, a freshman, attend Roane County High School.

Watts Bar Lake finds the family skiing, swimming and boating during the summer months.

William F. Wormsley was born in Caryville, and came to Y-12 June 16, 1954.

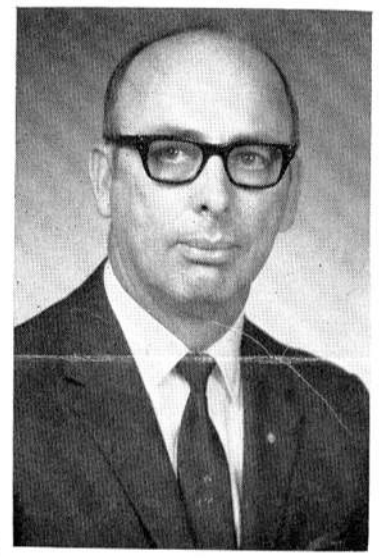
He lives with his family at Route 4, Tazewell Pike, Corryton. He is a veteran of the U. S. Army, serving from 1945 until 1947.

He worked with the Cross Funeral Home, Caryville. He still is a licensed mortician (graduating from the John A. Gupton Mortuary School in Nashville), and assists at the Cross Funeral Home in his spare time.

Mrs. Wormsley is the former Evelyn Bridges. They have a son Jay, attending Gibbs Elementary School, Knoxville.

Wormsley is a member of the Scottish Rite lodge.

James T. Dobbs, Jr.



William F. Wormsley

Riders wanted from Lenoir City to any portal, straight day. G. W. Smith, plant phone 3-5308, home phone Lenoir City 986-7806.

Ride wanted from Karns to West Portal, straight day. A. B. Seabolt, plant phone 3-7036, home phone Knoxville 584-4759.

Ride wanted from East Village area, Oak Ridge, to North Portal, straight day. Glen Bryson, plant phone 3-5710, home phone Oak Ridge 483-6678.

Ride wanted from Derry Street, North Knoxville area, to North Portal, straight day. H. W. Anderson, Jr., plant phone 3-5583, home phone Knoxville 523-2005.

Crappie Rodeo Is Set

E, F, G, H and J shiftmen are planning a big three week-end fishing rodeo, featuring crappies only.

The event will start Saturday and Sunday, March 21 and 22. It will include the long week-end of March 27, 28 and 29 . . . and conclude April 4 and 5.

Fishing hours are from 7 a.m. until 6 p.m. out of Blue Springs Dock, on Watts Bar Lake. All Y-12ers and their immediate families are eligible.

There will be dock prizes, door prizes and a huge array of awards for the biggest crappies taken.

So plan to weigh in those big ones between 4 and 6 p.m. on any of the days mentioned above.

March 6

Winslett Funeral Held in Oak Ridge

Joy J. Winslett, who was scheduled for retirement shortly, died Wednesday, March 4. A native of Bessemer, Ala., Mr. Winslett came to Y-12 February 6, 1951. He had worked with the Tennessee Valley Authority, Sheffield, Ala., the Dixie Metal Co., Boyd Machine Co., and the Tennessee Coal Iron Railroad Company, before coming here.

J. Winslett

Survivors include his wife Mrs. Ostra Thompson Winslett, a son Harold D. Winslett, 160 Illinois Ave., Oak Ridge; two daughters Mrs. Edna Griffith, Oak Harbor, Wash.; Mrs. Eleanor K. Wheeler, Laurel, Md.; a sister Mrs. Katy Knowles, Hueytown, Ala.; brothers, Ray E. Winslett, Sylacauga, Ala.; William and Percy M. Winslett, Bessemer; and Juel E. Winslett, Hueytown, Ala., and eight grandchildren.

Funeral services were held Friday, March 6, at the Weatherford Funeral Home, Oak Ridge, with the Reverend C. Ed Webber officiating. Interment followed in the Oak Ridge Memorial Park.

Sincere sympathy is extended the Winslett family.

CONGRATULATIONS TO THE ABOVE men from Y-12's Assembly division who have completed the six-week Assembly Training Course. Seated from left are Clifford Tate, Jr., Gerald L. Gamble and James W. White. Standing are Winford C. Spangler, Quentin A. Long, Leland Boshears and Jack P. McReynolds.

ADDING TO HER collection of bowling trophies, Ruby O'Kain posted another victory in Y-12's recent bowling tournament. Ruby's 1702 All Events scratch score topped even the men's best, even though she was not competing against the men!

Ruby O'Kain, Bill Ladd Sweep Honors In Bowling Tournament

Ruby O'Kain, fresh from her tournament victory in the Oak Ridge women's competition, took the Y-12 tournament hands-down last weekend . . . defeating even the male bowlers scorewise! Her 1702 All Events Scratch Score topped Bill Ladd's 1691, by 11 pins. Bill took men's honors, repeating as a champ.

The Bumpers . . . J. W. Halsey, Clyde Craven, Joe Pryson, Walt Sherrod and Ray Galford were the best team on the floor with a combination 2667 scratch score in combined effort. The Splinters, with John and George Reece, Elmer Johnson, Harry Keen and Frank Thurman, zeroed in with a 3019 to win handicap honors, taking most of the money.

Bill Ladd

J. W. Halsey and Fred Hammond took men's doubles high . . . with 1117 scratch; their handicap counterpoints were J. F. May and Ted Burnette who scored 1255.

Wayne Groppe rolled high individual singles, 629 scratch; Harvey Hankins registered a 684 handicap series.

C. H. Felker posted an 1862 handicap total to win All Events prize high.

Peg Dickens and C. C. Roberts rolled highest Mixed Doubles, putting a 1068 scratch, 1224 handicap score aside. Lou and Bill Sahr rolled 1189 handicap for second best.

Mabel Tyer and Champ O'Kain rolled best doubles, 1255 handicap. Lou Anfinson and Bobbie Hill combined scores for a 1030 scratch tally.

In female singles it was Lou Sahr without a doubt. Her 595 scratch series was high naturally; and O'Kain's 650 handicap total was high.

Sahr's 1926 handicap total was top money prize in All Events as her handicap score outweighed everyone else's.

In all the excitement C. C. Roberts, rolling in men's singles Sunday, March 1, converted the big split . . . the 4-6, 7-10 'impossible dream.'

Hi-Jackers New Leader In Starlite Bowling

The Hi-Jackers inched into a one-half point lead in the Starlite Bowling set last week with the Woodpeckers trailing in second place. Walt Sherrod held the Hi-J's in play last week rolling a 220 scratch, 238 handicap single; 604 scratch, 658 handicap series.

In the week prior to that Sherrod also rolled a high of 211 scratch, and a 563 scratch series.

League standings follow:

Team	W	L
Hi-Jackers	42½	12½
Woodpeckers	42	18
Splitters	34	26
Has Beens	33	27
Dynapaths	30	30
Thunderbirds	29½	30½
Wildcats	22	38
Jaguars	7	53

Alley Cats Extend Big Lead In Mixed Bowling

The Alley Cats have extended their lead in the Mixed Bowling circles, defeating the Hits & Misses for four, the Goofers for three.

Bill Patrick set them afire last week, helping the Cats' cause. His 239 scratch, 275 handicap single . . . 563 scratch, 671 handicap series was high for the night.

League standings follow:

Team	W	L
Alley Cats	33	7
Hit & Misses	21½	18½
Goofers	20½	19½
Twisters	20½	19½
Rollers	19	21
Mustangs	16½	23½
Spare Parts	16	24
Roses 'N Thorns	13	27

Recreation calendar

Monday, March 16
23

BOWLING: C League, 5:45 p.m. Ark Lanes.

TABLE TENNIS: 7 p.m. Wildcat's Den.

BASKETBALL: 6:30, 7:30, 8:30 p.m. Oak Ridge High School Gym.

Tuesday, March 17
24

PHYSICAL FITNESS (For Men): 7-9 p.m. Oak Ridge High School Gym.

BOWLING: Carbide Starlite Lanes, Knoxville, 8:30 p.m.

Wednesday, March 18
25

BASKETBALL: 6:30, 7:30, 8:30 p.m. Oak Ridge High School Gym.

BOWLING: Mixed League, 8 p.m. Ark Lanes.

Thursday, March 19
26

BOWLING: Classic League, 5:45 p.m. Ark Lanes.

VOLLEYBALL: 6:30, 7:45, 9 p.m. Oak Ridge High School Gym.

Friday, March 27

GOOD FRIDAY. Holiday for Y-12.

Bumpers Edge Upward On Classic Alley Race

The Has Beens still cling to the top perch in the Classic Bowling League, after a three point win over the Playboys and a two and one-half point loss to the Cubs. The Bumpers are within reaching distance, defeating the Smelters for four and the All Stars for three.

Elmer Green, Bumpers, rolled big February 26, putting a 243 scratch game, 272 handicap single on the boards. Del Ducay, Pinbusters, rolled series of 607 scratch, 685 handicap the same night.

Last week Dan Kessel, Swingsters, rolled a 239 scratch, 261 handicap game. Lee Horton, Cubs, rolled a 695 handicap series.

League standings follow:

Team	W	L
Has Beens	28½	7½
Bumpers	26	10
Rebels	22	14
Rippers	22	14
Splinters	22	14
Eightballs	21	15
Swingsters	20	16
Screwballs	18	18
All Stars	18	18
Tigers	17	19
Markers	15	21
Cubs	14½	21½
Playboys	14	22
Smelters	10	26
Pinbusters	10	26
Eagles	10	26

Sunflowers Take Top Slot In C Bowling

The Sunflowers stay atop the heap in the C Bowling race after two more weeks of gruelling action. They posted four points from the Parbusters last week, three from the Anodes the week prior.

Bill Sise, Big Five, rolled a 247 single game on February 23. Ray Galford, Sunflowers, rolled a hot 257 last week. J. J. Sewell, Big Five, rolled a 625 scratch, 679 handicap series last week . . . as the Sunflowers put a 3042 handicap series on the boards.

League standings follow:

Team	W	L
Sunflowers	29½	14½
Rillmasters	28	16
HiLifers	27	17
Big Five	26½	17½
Instrument Engineers	26	18
Badgers	21½	22½
Anodes	20	24
Royal Flush	20	24
Rounders	19½	24½
Fireballs	19	25
Parbusters	16	28
Go Go Gophers	10	34

Don't put anyone on the spot—wipe it up.

Mr. and Mrs. James Ronald Williams

Mid-March finds more Y-12ers marking important dates with Union Carbide Corporation. Congratulations.

25 YEARS

Tom McCoy, Research Services, March 13.

William D. Phillippi, Facilities Engineering, March 14.

Effie M. Culbertson, Production Assay, March 15.

Raymond E. Wilkerson, Buildings, Grounds and Maintenance Shops, March 17.

20 YEARS

Lonnie A. Jeffreys, Buildings, Grounds and Maintenance Shops, March 14.

15 YEARS

Erb H. Mowery, Materials Engineering Development, March 18.

HIGHWAY MURDER

Last year was the worst in the nation's history—with 20,3389,000 traffic accidents. These caused an estimated 56,310 deaths, 4,629,000 injuries and an unparalleled economic loss of $16.5 billion.

WILLIAMS—MOTT

The marriage of Miss Nancy Kay Mott and Mr. James Ronald Williams was confirmed in religious ceremony Saturday, December 27, at the United Pentecostal Church, Bethel Springs, Tenn. The Reverend James R. Ross officated. The couple was married in a civil ceremony March 29 last year.

The bride is the daughter of Mr. and Mrs. Murline A. Mott, Bolivar, Tenn., and the groom is the son of Mr. and Mrs. Henry Prince Williams, Bethel Springs. She graduated from Bethel Springs High School where she was active in the FHA. He also graduated from Bethel Springs and attended the Savannah Area Vocational Technical School, Crump, Tenn., and is graduated from Y-12's Training and Technology Project. He is presently employed in Y-12's Electrical and Electronics Department.

A reception honored the couple at the chapel immediately after the rites.

The couple is at home at 129 Wade Lane, Oak Ridge.

Etheredge Places 3rd In March Skeet Fires

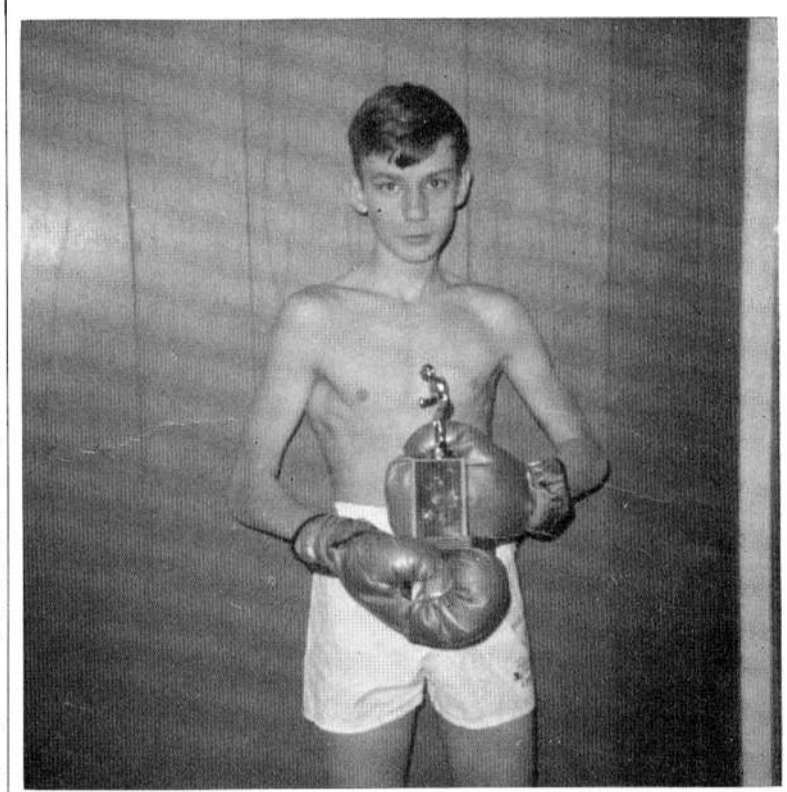
Ben Etheredge placed third in March 1 firings in the Skeet Tournament. His handicap score of 48.754 followed W. Davy's 48.880 and Vernon Raaen's 49.595.

The next firings will be held Sunday, April 12.

March Skeet Scores:

Firer	H'Cap Score
R. Allstun, Y-12	46.625
Perry Bullard, Y-12	48.813*
Chas. Asmanes, Y-12	45.948
Joe Comonlander, Y-12	47.469
W. Davy Sr., K-25	48.654
B. Powers, Y-12	44.954
B. Etheredge, Y-12	48.753
R. McNabb, Y-12	48.132
Carl Brewster, Y-12	47.872
Tom Webber, Y-12	49.377*
Bert Searles, Y-12	49.192*
V. Raaen, K-25	49.595
W. Davy Jr., X-10	48.880

* Under Penalty, due to previous winnings.



JIMMY HAMILTON won the 106-lb. high school weight division in the local Golden Gloves, posting victories in three fights. He won a sweater in one fight . . . a trophy for the Southern Golden Gloves victory. Jim is a sophomore at Farragut High . . . the son of H. E. Hamilton, in Y-12's Dispatching Department.

THE CARBIDE COURIER

Thursday, March 12, 1970

Charles E. Newlon

C. E. Newlon Is AIC Fellow

Charles E. Newlon of the Nuclear Safety and Technology Department, Laboratory Division was recently elected a Fellow of the American Institute of Chemists. To qualify for "Nomination for Fellow," a candidate should have successfully completed four years of collegiate work in chemistry or chemical engineering and, in addition have completed ten years of progressive experience and responsibility in the practice of the profession.

Newlon's fields of major interest and endeavor include the design of radioactive materials shipping packages, design of nuclearly safe process equipment, nuclear criticality control, theoretical studies of neutron interaction in fissile arrays, health physics and industrial hygiene. He is the author of a number of papers and publications covering equipment design and nuclear safety.

"Chuck" has been a K-25er for 25 years. The first year he was assigned to the Special Engineering Detachment of the Manhattan District, U. S. Army. He joined Carbide in February, 1946 following his discharge from the army.

A native of Point Marion, Pennsylvania, Newlon graduated from high school in that city. He received his B.S. and M.S. degrees in Chemical Engineering from Columbia University in New York City. He is married to the former Dorothy Jean Craumer of Lebanon, Pa. The Newlon's have four children, three at home at 4221 Towanda Trail in Knoxville. Jeanne and Lisle are students at U-T and Louise attends West High. Their eldest son, Charles R. is in the U. S. Air Force, stationed in Germany.

Goodwill is the mightiest practical force in the universe.

Lab Notes

W. D. Hedge, Laboratory Division, was awarded Honorable Mention for the Shewell Award at the 24th Midwest Conference of the American Society for Quality Control (Chemical Division) held in St. Louis, Missouri, last October, 1969. The Shewell Award is a recognition of outstanding oral presentation of a technical paper at the Chemical Division's Annual Technical Conference.

The title of Hedge's paper was, "A Method of Data Treatment for the Analytical Q.C. of an Unstable Solution: Sodium Hypophosphite in Electroless Nickel Plating Media."

* * *

W. E. May of Barrier and Flow Measurement Services and Mrs. May are the proud parents of a baby girl. The Mays reside at 2052 Dandridge, Apt. 38, Knoxville.

* * *

A word from one of our retirees — The Chemical Analysis Department recently received word from Nina Wallace who retired last December. Nina has recovered from a bout with the flu and is now busily engaged with her favorite pasttime, growing flowers.

CAROLYN MONGER AND STANLEY FINCH observe the display telling of the many services available to personnel from the K-25 Photographic Department.

Display Shows Photographic Services That Are Available to K-25 Personnel

To a large number of people in the plant, the Photography Department is probably known as the place that takes your badge picture when you "hire in" and a portrait picture if you stay with us until you retire from active employment.

Actually, badge and portrait pictures are a very small part of the requests for photographic services in the plant. An exhibit has been recently prepared that depicts some of the diversities, complexities, and capabilities of the "Photo Lab." This exhibit, designed by the Graphic Arts Department, is now being displayed in key locations throughout the plant.

Photographic assignments may range from taking pictures from the top of the fire water tank, as well as inside this tank for study of possible corrosive action, to manholes underground. The photographers have also taken aerial pictures over the plant from planes and helicopters. They have had to operate in areas of extreme heat and cold, for example, taking pictures of a ruptured boiler tube inside a boiler. At times they have almost had to stand on their heads or be contortionists to obtain a desired picture.

What kind of pictures does the Photo Lab take? The answer — most every kind:

1. Movies — 16 mm in black and white or color, both conventional and high speed. This high speed action may be taken from 150 to 8,000 frames per second. When shown back at regular speed (16 frames per second) the action is slowed down perceptibly. It has been said that photography lets the engineer or scientist manipulate time; he can slow it down, speed it up, and even "stop" it.
2. Slides—Lantern slides, negatives, blue diazo, and color in 35 mm and 3¼"x4" size.
3. Color printing — A large percentage of color work necessitates four separate color processes.
4. Photodrawings — A combination of large photographs and drawings on reproducible film.
5. Metalphoto (on photosensitive aluminum) — Includes nameplates, identification tags, plaques, and relay rack panels.
6. Still photographs — An extremely wide variety both in black and white and color.

The potentials of industrial photography are limited only by the imagination (and the requestor's budget).

The Photography Department exhibit will serve to tell what the department can do for requestors in the plant. Persons requesting photographic services can, in turn, help the Photo Lab employees by giving them as much advance notice as possible so that the services can be scheduled. The requestor can also help the Photo Lab by giving them some idea how the picture, or pictures, is to be used —the story that is to be conveyed or told.

Each photographic assignment presents a challenge — in composition, contrast, lighting, method of presentation — all of the facets that go into the making of an effective pictorial communication. The employees in the Photography Department can help you "tell it like it is." John Edwards is the supervisor of the department. The photographers are Erwin Halterman and Howard Phillips.

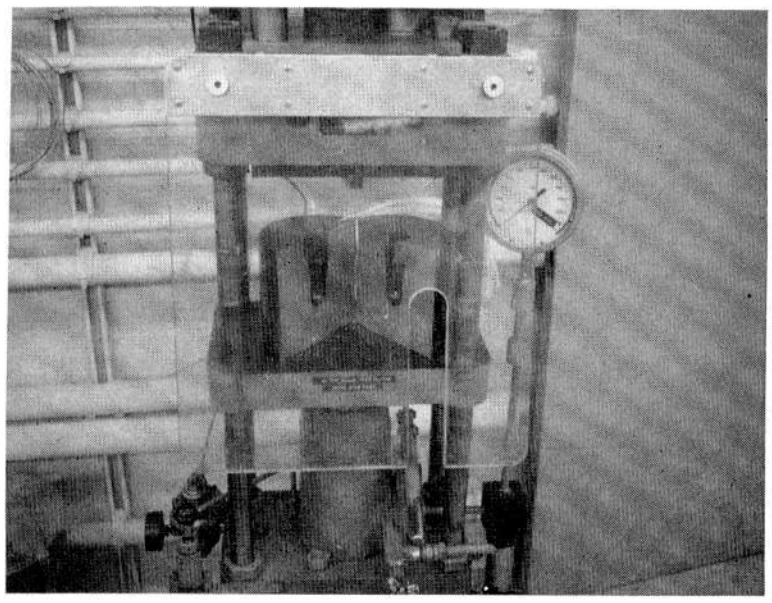
DEGREE DAYS

A degree day is a standard measurement used by heating engineers and weather forecasters to express the season's coldness. The number of degree days in a calendar day is determined by subtracting the day's average from 65°. If the high on a given day was 60° and the low was 40° the average temperature that day was 50°. Subtracting this from 65° gives us 15 degree days for that calendar day.

RECENT GRADUATES TO FULL-FLEDGED MECHANICS after completing the Helper Training Program are the above men. Left to right are L. A. Studinger, Superintendent of Fabrication and Maintenance presenting the Achievement Awards; R. W. Dunn, Electrical Mechanic; G. L. Smith, Machinist; E. L. Blankenship, Electrical Mechanic; L. E. Guilliams, Carpenter; and W. E. Rooks, Superintendent of Field Maintenance and Chairman of the Training Advisory Group.

SAFETY SCOREBOARD

OUR PLANT
Has Operated
2,696,000 Safe Hours
Through March 5
Since last disabling injury on August 19



THE PAY OFF! The plastic shield installed in front of this hydraulic press prevented possible serious injury to the operator when the vessel ruptured recently while it was being tested.

Safety Device Proves Worth on Pressure Vessel

Recently, while preparing samples in a laboratory hydraulic pressure vessel, the vessel ruptured and a safety shield prevented a 45-pound piece of the vessel from being propelled into the area where the operator was working. The safety device probably prevented a serious injury. Ronald Hamlet, a co-op student with the Gaseous Diffusion Development Division, was preparing samples by isostatically pressing the samples in a hydraulic vessel at 60,000 psi. The vessel was designed to withstand 90,000 psi. The procedure consists of raising the vessel pressure and allowing it to set for a few seconds. During this time the operator obtained an absorbant towel to use during sample removal. As the operator was returning with the towel, the pressure vessel ruptured into two almost equal 45-pound pieces. One piece was propelled against the safety shield on the front of the the press and came to rest wedged between the shield and the platen. The other piece was propelled out of the back of the press into the general area of a wall and then to the floor. It was evident from the damage to the shield that the piece of the vessel was propelled with enough force to have produced a serious injury had the shield not been in place. Another instance proving that safety doesn't cost—it pays!

K-25ers Serving Their Community

W. J. McClain and Mark Reeves, both employees in the Computing Technology Center, are currently serving as members of the board of directors of Youth Haven. Leslie Powers of Operations Analysis and Long Range Planning, recently transferred from K-25 to Y-12, is also a member of the board. These men were active in recognizing the need for and the formation of the organization, and have continued to serve since it was originally formed.

Youth Haven is a relatively new organization, formed by a number of concerned individuals to provide temporary housing and counseling for children under 18 years of age who have suffered a major disruption of their family environment.

In the past, it was necessary to place some young people in similar circumstances in the County Jail for lack of a better place. Now, Youth Haven provides adequate supervision at all times, in a homelike atmosphere, where youths may stand to gain from the experience.

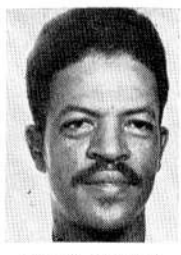
McClain, Reeves, and Powers, along with other members of the board, give of their time and energy in assisting this organization to fulfill its objectives. They deserve the appreciation of the community.

Youth Haven, an attractive residence on Tulane Avenue in Oak Ridge, is supported by the Anderson County United Fund.

THE CARBIDE COURIER
Published Biweekly
Editor ..... H. J. Mayberry
K-1002 Building, Tel. 3-3097

Milo Payne Dies After Car Wreck

Milo Payne of the Janitors Department died in the Oak Ridge Hospital on Saturday, February 28, about two hours after having been injured in a one-car accident on the highway between Oliver Springs and Oak Ridge. Payne was a passenger in a car driven by Marvin B. Burum of Oliver Springs.



Milo Payne

Payne had been employed here since August of last year. He was originally from Cairo, Illinois, and came to the Oliver Springs area nine years ago from Indianapolis, Indiana.

Survivors include his widow, Juanita Curd Payne; and a daughter, Lamatrica, residing on Strutt Street in Oliver Springs; also a stepdaughter, Mrs. Barbara Curd Smith; and a stepson, William Curd.

Ride wanted from Florida Avenue, Oak Ridge to K-1007, 7:45 to 4:15 shift. Debbie Widener, 3-9309, home phone 482-4329.

Praise makes good men better and bad men worse.

Engineering

By F. DODGE

We are putting our faith in the groundhog and hopefully awaiting spring. The winter jasmine which usually blossoms in February hasn't ventured a bud yet. And the fellows are still sporting their lush face foliage. We understand that it keeps them warm on these early treks to work through flood, snow and zero temperatures. 'Hope they will come out' in the spring, we have forgotten what some of them look like. Pity the POOR GUARDS trying to penetrate the disguise. You never know whether you have mink, fink or genius—a real security problem.

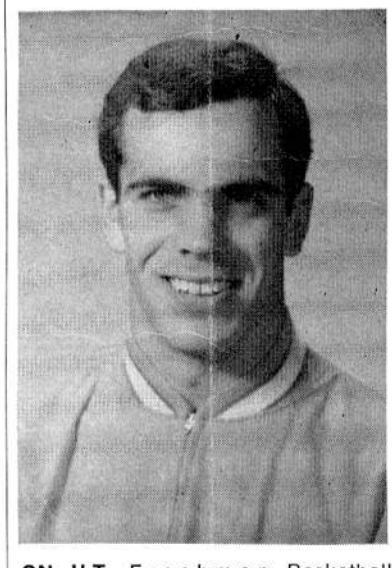
Well, Powell Hale has 'put Freida Dodge down'—she has been bragging about a boxer winning best-in-show in the Madison Square Garden Dog Show. Powell had two of his fine registered BULLDOGS to present him with 'octuplets'. 16 bulldog puplets—a lot of dogs! Congratulations Powell and our sympathy to wife, Joyce, who does all the bulldog catering.

Again our thanks to Mr. Mayberry for brightening our dull days with his cafeteria displays. Mr. Lawson really captured rural America, and now our photo lab presents art in a different phase—really beautiful lighting and color effects. We Carbiders are truly a wonderfully talented and versatile tribe. No wonder we accomplished 'Mission Impossible' back in '43 and in '44 and we are still in there striving to make this old world a better place in which to enjoy the fruits of our labors.

Timothy Fitzgerald Neal arrived at the Oak Ridge Hospital on January 29. He is 22 inches tall and weighed 8 pounds and 7 ounces upon arrival. He has been trying to get acquainted with his parents who have both been battling the flu. He is the son of Clea Neal of Instrument Department and Mrs. Neal. He boasts a X-10 grandfather, Joe L. Neal Sr., and an uncle, Roy "Butch" Howell of Applied Science Department. In spite of all of this good Carbide atmosphere Clea says Timothy Fitzgerald is going to be a golf pro. Don't retire yet Clea—he just might change your mind.

We have been following up on the rumor that one of our most eligible bachelors has a friend with curly auburn hair called "Freckles". Sounds real interesting—it is. Charley Frye has a springer spaniel named Freckles. Well, we always say "A man is a dog's best friend." Welcome to the Carbide K-9 Slaves Club.

It seldom pays to be rude. It never pays to be half rude.



ON U.T. Freshman Basketball Squad. Bill Lenihan, son of William S. Lenihan of the Capacity Expansion Management Team. More news is expected of young Lenihan next basketball season!

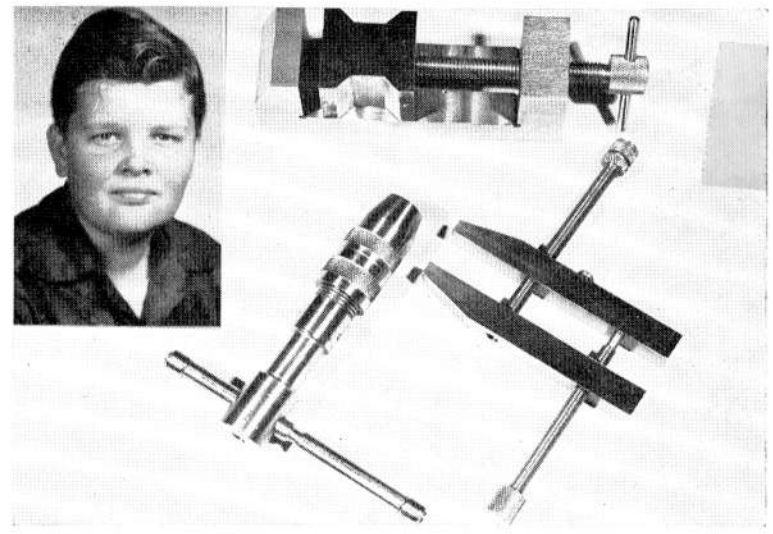


EXHIBIT OF MACHINIST'S WORK. Roy Runions, Junior, 19, son of Roy, Sr., Physical Test Department, is attending a government-sponsored vocational training school in Briceville, Tennessee, taking a two-year course in learning the machinist's trade. He completely fabricated the above items; top—toolmaker's vice, center—t-handle tap wrench, lower right—toolmaker's clamp.

Men's Tuesday Bowling League

By Mal Strickland

February 24—There were no 600 scratch series rolled in this league session but there were several "pretty good" series scores. Walt Brown and Harold Gunter each rolled 588 scratch series. John Shoemaker rolled a 579 scratch series and Mal Strickland came through with a 570 series.

Walt Brown had high handicap series with a 672 while Gunter totaled 663 handicap series. Walt also had the high scratch game (235) and high handicap game (263). Gunter was next in line with 229 scratch game and 254 handicap game. James Bowers rolled a 249 handicap game (204 scratch).

A new season's high team handicap series was rolled by the Late Comers as they racked up a 3047 total.

Dwight Hatch banged out a 569 scratch series (665 handicap) to take honors in both these categories for the February 17 bowling session.

There was a tie for high handicap game of the night between Don Burton and Frank Strang. They had handicap games of 266; Burton rolling a 234 scratch game. Burton also ran a close second in scratch series with a 560.

Team Standings

Double X	17	All Stars	11
Atoms	15	Full House	10
Possibles	14	AECOP	8
Late Comers	13	City Slickers	8

Quotes From Notes From Our Retirees

"I will take this opportunity to say "hello" to Mr. Mayberry and all the department. The first few months seemed like a long vacation but after a year, it has become a wonderful way of life.

"We surely enjoy sunny Florida (mosquitoes and all). I still think of K-25 and my friends very near and dear to me."

Sincerely,
ZONA WRIGHT
Bokeelia, Florida

"Just to let you know we are having a hell of a lot of fun. A week of this has been wonderful.

BILL SCHABOT
See Ya,
(Written from Honolulu, Hawaii)

The average woman has a smaller vocabulary than the average man . . . but the turnover is greater.

Recreation

Calendar

Monday, March 16
28

BASKETBALL: 6:30, 7:30, 8:30 p.m. Oak Ridge High School Gym.

Tuesday, March 17
24

PHYSICAL FITNESS: 7-9 p.m. Oak Ridge High School Gym. (For Men).

BOWLING: K-25 Girl's League, 5:45 p.m. Ark Lanes.

BOWLING: K-25 Men's League, 8 p.m. Ark Lanes.

Wednesday, March 18
25

BOWLING: K-25 Men's League, 5:45 p.m. Ark Lanes.

BASKETBALL: 6:30, 7:30, 8:30 p.m. Oak Ridge High School Gym.

Thursday, March 19
26

VOLLEYBALL: 6:30, 7:45, 9 p.m. Oak Ridge High School Gym.

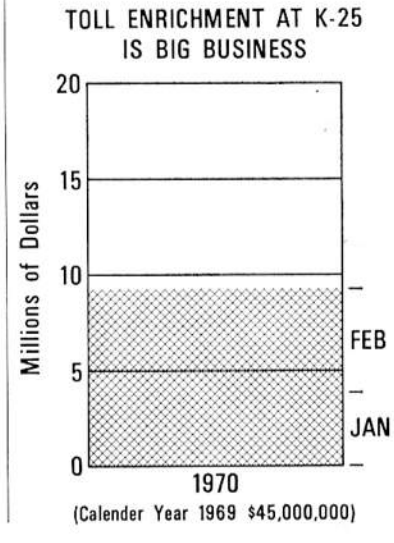
Women's Bowling

Jean Mooney and **Cheryl Flagg** shared the Bowler-of-the-Week honors in the February 24 session of the K-25 Women's League. Jean had the high scratch scores with 183-492 and Cheryl had handicap scores of 227-610.

Shirley Simmons had the top honors in the February 17 session with a single game of 203-247 and a 665 handicap series. **Mary Foley** had the best scratch series score with a 561.

Standings

Up-Towners	21	Wood Bees	16
Pay Offs	20	Bowlettes	16
Pin-Ups	18	Spotters	14
Hot Shots	16	Purchurettes	9



Why A Rectal Examination?

By T. A. LINCOLN, M.D.

The importance of a careful rectal examination during every complete physical examination is not generally appreciated. Many patients submit largely because their physician insists. To them it is distinctly indelicate and unpleasant and they would like to avoid it.

Unfortunately, many believe, or maybe just hope, that most rectal disorders produce symptoms. Going for help when they have pain, bleeding, itching, or a distinct change in bowel habits seems soon enough for them.

The Silent Disease

Sadly, the conditions which cause distinct symptoms are seldom life threatening. Anyone who has had a rectal abscess or a thrombosed hemorrhoid didn't hesitate going to his physician. But these and the many other rectal conditions which produce symptoms are not the problem. It is the "silent disease," cancer, which has to be sought before it produces symptoms.

Dr. Lincoln

The seriousness of cancer of the colon or rectum, as well as the prostate, which can also be detected during a rectal examination, is appreciated by most people. Unfortunately, however, they assume that cancer strikes only other people — not them. They feel great. They couldn't have cancer.

Cancer of the colon and rectum, colo-rectal cancer, is second only to lung cancer. In 1967, 44,000 patients died and 77,000 new cases were discovered. It has been estimated that 66 percent of these deaths—over 29,000 lives—could have been avoided if these tumors had been found early enough.

Cancer of Prostate

Cancer of the prostate is more frequently a disease of advanced age, and early detection and treatment are less likely to produce a cure. About 17,000 men die each year from this disease. In recent years, largely as a result of the greatly increased frequency of routine physical examinations, a few cases are being found early enough to be cured. This cancer can be particularly devastating in a man in his 50's or early 60's. When it occurs in his 70's or 80's, it frequently is slow growing and can be controlled for a long time with hormone and chemotheraphy.

The screening process for colo-rectal cancers is simple. If one uses only an extremely coarse screen, he encourages people who have had an unexplained change in bowel habits, rectal bleeding, the passage of dark "tar-like" stools, weight loss or persistent easy fatigability to come in for investigation. If these symptoms are reported promptly and carefully investigated, many colo-rectal cancers will still be found early enough to be cured.

Tightening the screening process considerably would require a routine periodic physical examination. The patient is questioned about his bowel function and, in addition to the usual general physical examination, the rectum is palpated by the physician using his gloved finger. It used to be thought that almost 50 percent of colo-rectal cancers could be detected by this digital examination. But this is incorrect. It is probably closer to 10 percent.

Direct Inspection

If a fine mesh screen is desired, the direct visual inspection of the anus and rectum is required. The rectum is the last five inches of the bowel and ends at the anus, which is surrounded by the muscular sphincter. Ideally, the examination should be extended into the lower sigmoid colon for a total distance of almost ten inches. The latter is called a procto-sigmoidoscopic examination. Sometimes it is difficult to get into the sigmoid colon and the instrument cannot be passed more than six or seven inches.

The patient has to take a self-administered cleansing enema about two hours before the examination and return to work immediately after the examination has been completed.

Most patients find the examination much less uncomfortable than they had expected. Other than slight embarrassment at the indelicacy of the area being examined, most patients feel only a modest amount of cramping, somewhat like a mild stomach ache, as the scope is passed into the sigmoid.

Review of Examinations

In a review of over 146,000 sigmoidoscopic examinations reported from 21 locations all over the country, Dr. Irving Rasgon of the Southern California Permanente Medical Group in Los Angeles, found that a benign lesion, usually a polyp, had been found in 6.75 percent and a malignant lesion in 1.42 percent of routine examinations. It is still not clear how many of the polyps found would eventually have become malignant, but all were removed as a precaution.

A study at the Minnesota Cancer Detection Center found that less than one-third of expected cancers were found among people who had had periodic examinations. The removal of polyps had apparently reduced the expected incidence of cancers.

Whenever a polyp is found, an x-ray examination of the colon is strongly advised, since other polyps or even tumors may exist further up the colon.

When one looks at the total picture, it is difficult to see why a patient would decline the procto - sigmoidoscopic examination. Seventy percent of cancers of the colon and rectum are within reach of the instrument. When a cancer is limited to the rectal wall, the five year survival of patients is over 80 percent. The five year survival of patients with symptomatic cancer is between 20 percent and 50 percent. It is worth remembering that 13 out of 1,000 men and 10 out of 1,000 women will develop colo-rectal cancer sometime during their lifetime.

Although there are obviously not enough physicians to perform these examinations every two years on everyone over 40, the ideal, those who have the opportunity certainly should take advantage of it. Yes, it is indelicate and sometimes a trifle unpleasant, but that should be insignificant when one considers that his life might be saved.

Carbide To Expand Its Swedish Plants

The first stage of a major expansion of the low density polyethylene plant of Unifos Kemi AB in Stenungsund, Sweden, has been completed, it has been announced by Birny Mason, Jr., chairman of the board of Union Carbide Corporation. The expansion will increase the plant's capacity to 140,000 tons a year by 1971 without the addition of new reactors. This is made possible by employing the latest developments in Union Carbide's patented high pressure process used at 13 corporation plants around the world. Unifos Kemi is owned jointly Union Carbide and Fosfatbolaget Aktiebolaget of Stockholm.

In making the announcement, Mason stated that this is the fourth expansion since the plant was completed in 1963. Since that time, Unifos Kemi has increased its output more than eightfold primarily by process improvements. Its products, which serve the particular and special requirements of the Scandinavian market, have been developed in close cooperation with fabricators who have helped, to a unique degree, to expand the successful uses of polyethylene in the area.

Low density polyethylene is used principally in the packaging field for film, bottles, and coating of paper and board. Also, it is used widely in cable insulation, pipe, and molded products. The market for the product has been growing at a substantial rate for the past several years and this growth is expected to continue.

CHAMPIONS OF THE TERMITE LEAGUE—The Oak Ridge Boys Club West team is coached by Glennis Harris, ORGDP, Elmer Lee, ORNL and Irv Federer. In the first row, from left, are Scott Lee (Elmer, ORNL); Greg Brown; Rick Davis (Frank, ORNL); John Federer (Irv, ORNL) and David White (Gene, ORGDP). In the second row are Jeff Richards (Hubert, Y-12); Bryan Harris (Glennis, ORGDP); Tony Lee (Elmer, ORNL); Tommy Wheeler; Danny Russell; and Ben Stelson (Paul, ORNL). In the rear are Lee, Phillip Harris, Harris and Federer.

Basketballs' GBUs Defeat CC 69ers

For the third time this season the Computes went over the 100 mark in basketball scoring, this time it was the Ail Stars that fell victims, 110 to 21.

The big GBU's and 69ers collided last week also to remove the competition over second place in the league standings. The GBU's won that race 58 to 51, with Doug Raymer outstanding with 25 points scoring well under the basket despite height disadvantage with the 69ers' Jim Williams and Hal Conners.

Week before last the Computes clipped the K-25 Trojans, 65 to 47, settling the outcome in the first quarter when they ran the score up to 17 to 4 with balanced scoring from the hands of Larry Finch, Jim Treadwell and Bob Alred. Tom Davis led the Trojans with 18 points.

League standings follow:

Team	W	L
Computes, ORNL	13	0
GBU's, Y-12	12	1
Bombers, ORNL	12	2
CC 69ers, K-25	11	2
Butterballs, ORNL	10	4
Nads, ORNL	11	3
Beta 2 Miners, Y-12	10	3
Isotopes, ORNL	9	5
Rolling Bones, ORNL	9	6
K-25 Trojans	7	6
Spoilers, ORNL	6	8
Aggressors, ORNL	5	8
Buccaneers, Y-12	5	8
Meat Loafs, ORNL	5	9
Rats, Y-12	4	9
Road Runners, ORNL	4	10
Mod Squad, Y-12	4	10
Quarks, Y-12	4	11
Hawks, Y-12	2	11
Ail Stars, ORNL	1	13
Development All Stars, Y-12	0	14

Hiking Club to Climb Parsons Bald Sunday

Smoky Mountain Club hikers will visit Parsons Bald Sunday, March 15.

They will follow Bible Creek to the junction with Black Gum Branch, thence to Black Gum Gap and up the ridge to Parsons Bald. The hikers will return by the state line south of the bald and drop off into Bible Creek.

The hiking distance is 10 miles, give or take a few. The Oak Ridge leader is Marion Randolph, telephone 483-5345.

West Termite Team Ends Great Season

The Termite League of the Boys Club is made up of players . . . nine years and older. Nine teams from church groups and the club compete in the league.

The West team from the Oak Ridge Boys Club went through the season undefeated, sometimes scoring as high as 52 points in a game.

The team is coached by Glennis Harris, ORGDP; Elmer Lee and Irv Federer, ORNL. Each coach voiced appreciation for the parents of the players stating that not any of them interferred with any of the play.

The coaches also promised that the boys will be heard from a few years hence when they reach high school.

The Pack Ties Beavers In Volleyball Contest

ORNL's Pack moved up to tie with the Y-12 Beavers in volleyball last week with a four game win over the Bombers. (The Beavers rested, not scheduled to play).

K-25 Hawks downed the ORNL Old Men for three games, putting the Y-12 Old Men down for four the previous week. The Gashouse Gang won only one from the Y-12 Old Men, having defeated the Eagles for four the week of February 26.

League standings follow:

Team	W	L
Beavers, Y-12	38	2
The Pack, ORNL	38	2
K-25 Hawks	32	12
Set-Ups, ORNL	30	10
Old Men, ORNL	26	18
K-25 Gashouse Gang	23	21
Eagles, Y-12	20	24
Y-12 Old Men	18	26
Bombers, ORNL	13	31
Blacksmiths, ORNL	12	32
Boomerangs, ORNL	7	35
Beta 4 Commodores	5	39

LIBRARY LISTINGS

As a continuing service, Nuclear Division News will publish representative lists of recent acquisitions by the libraries at the Oak Ridge facilities.

Oak Ridge Gaseous Diffusion Plant

An Experimental Study of the Structure, Thermodynamics and Kinetic Behavior of Water. F. T. Greene.

Value of Desalted Water for Irrigation. (U. S. Bureau of Reclamation).

Industrial Personnel Security: Cases and Materials. L. H. Weaver, Ed.

Organic Fluorine Chemistry. W. A. Sheppard.

Transfer and Storage of Energy by Molecules. Vol. I, Electronic Energy. G. M. Burnett.

Automotive Fuel, Lubricating and Cooling Systems: Construction, Operation, and Maintenance (3rd ed.). W. H. Crouse.

Fundamentals of Radiation Protection. H. F. Henry.

Cocurrent Gas-Liquid Flow. (Proceedings of Conference).

ACI Manual of Concrete Practice. (3 volumes, 2nd ed.).

Oak Ridge National Laboratory

The Uneasy Partnership, Social Science and the Federal Government in the Twentieth Century. Gene M. Lyons. (Central, 4500).

Elementary Excitations in Solids. David Pines. (Central, 4500).

International Conference on Cosmic Rays. (Proceedings). (Central, 4500).

Chromosome Studies in Acute Leukemia. Mogens K. Jensen. (Biology, 9207, Y-12 Area).

Fertilization; Comparative Morphology, Biochemistry, and Immunology (Vol. 2). Charles B. Metz. (Biology, 9207, Y-12 Area).

Thule International Symposium on Cancer and Aging. A. Engel and T. Larsson, Eds. (Biology, 9207, Y-12 Area).

Population, Evolution, and Birth Control, A Collage of Controversial Ideas (2nd ed.). Garrett J. Hardin. (Biology, 9207, Y-12 Area).

Biological Implications of the Nuclear Age. (Proceedings of Conference). (Technical, 9711-1, Y-12 Area).

Encyclopedia of Chemical Technology. (Technical, 9711-1, Y-12 Area).

Joint Computer Conference and American Federation of Information Processing Societies. (Conference Proceedings, Nos. 34 and 35). (Technical, 9711-1, Y-12 Area).

Advances in Plasma Physics (Vol. 2). Albert Simon and William B. Thompson, Eds. (Thermonuclear, 9201-2, Y-12 Area).

Practical Scientific Russian. S. Kaganoff. (Thermonuclear, 9201-2, Y-12 Area).

Electrical Noise. Robert A. King. (Thermonuclear, 9201-2, Y-12 Area).

Oak Ridge Associated Universities

Advances in Cancer Research (Vol. 12). Sidney Weinhouse, et al., Eds.

The Cytoplasm of Hepatocytes During Carcinogenesis. Peter Bannasch.

Advances in Macromolecular Chemistry (Vol. 1).

The College Blue Book (13th ed.) 1969-70.

Secretary's Handbook (9th ed.). Sarah A. Taintor.

International Conference on Nondestructive Testing. (Proceedings of Conference).

Experimental City

By Glenn T. Seaborg

Think of a city where there are never any traffic jams, where there is no pollution or smog, where public facilities for shopping, education and recreation are easily accessible and uncrowded and where all citizens enjoy the most modern housing conditions and personal conveniences. These are only a few of the goals of a group of farsighted men who have conceived, and are planning to construct America's first "Experimental City."

Seaborg

Among those innovations planned for the Experimental City is a transportation system that would eliminate all automobiles within the city limits. Inner-city travel would be by motorless, driverless, noiseless, semi-private pods computer-controlled so passengers would travel non-stop to their destinations. Moving sidewalks, moving platforms and other wheelless systems may also be part of the fare-free system.

The Experimental City would be made pollution-free by utility tunnels carrying away liquid and gaseous wastes, as well as many solids, to processing plants where much of the material would be reclaimed.

All the latest communications technologies would be designed and built into the city, its substructure wired with coaxial cables to every point where an outlet for video-phones, computers, facsimile machines or any other electric or electronic utilities might be needed.

A large portion of the Experimental City—perhaps an area two miles in diameter — might be domed and climate-controlled.

Housing design and construction would take advantage of many innovations from that of inflatable buildings to modular construction and structures with adjustable walls, floors and ceilings.

Perhaps the most important idea in the conception of the Experimental City is that it will be planned and built with human needs as paramount considerations. The planners of the City realize it would take many such cities to meet the needs of our growing population. But they hope to set a new pattern for the future urban development of this country and perhaps the rapidly urbanizing world.

January Uranium Shipment Is Large

The Oak Ridge Gaseous Diffusion Plant shipped more than 210,000 pounds of enriched uranium during January for use in nuclear reactors. The plant is one of four facilities operated by Union Carbide Corporation's Nuclear Division for the U. S. Atomic Energy Commission.

The uranium, which was enriched at a charge of more than $7.3 million, filled orders authorized under two AEC programs — Toll Enrichment and "Lease and Sale."

Under the Toll Enrichment Program, approximately $3.9 million worth of separative work was performed for customers in West Germany, as well as in the States of Illinois, Nebraska and South Carolina.

Customers are charged for the services required to separate from natural uranium the desired percentage of the uranium-235 isotope, which is the fissionable material used in nuclear reactors.

Under the "Lease and Sale" program, reactors in Minnesota and New York received government-owned enriched uranium valued at more than $3.3 million.

SAFETY MEASURES

Tests indicate that a chemical additive may help to control emissions of carbon monoxide in automobile exhausts. A small quantity of poly-alkylmethacrylate added to gas in the tank has shown good results.

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NUCLEAR DIVISION
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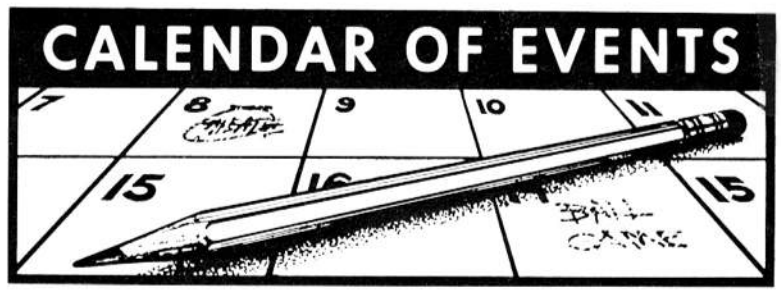

TECHNICAL

March 13

Barry J. Allen, on leave from Australian AEC Research Laboratory, will speak on "Neutron Capture Experiments in the keV Energy Region." Physics Division Seminar, Central Auditorium, Building 4500N, 3:15 p.m.

S. I. Auerbach, ORNL, will speak on "International Biological Program." Biology Division Seminar, Large Conference Room, Building 9207, 12:15 p.m.

John A. Ewing, University of Tennessee, will speak on "Agriculture Research Experimentation, Yesterday, Today, and Tomorrow." UT-AEC Agricultural Research Laboratory Seminar, UT-AEC Conference Room, 3 p.m.

March 13, 14

11th Annual Quality Control Clinic, UT Campus, University Center. Registration 8:30 a.m.

March 17

AMERICAN WELDING SOCIETY — Northeast Tennessee Section. 6:30 p.m. Clinton Scottish Inn. Dr. Robert H. Kaltenhauser, Allegheny Ludlum Steel, "Metallurgical and Welding Characteristics of the Newer Stainless Steels."

March 20

F. H. Sobels, Leiden University, will be guest speaker at Biology Division Seminar, First Floor Tower Annex Conference Room, Building 9207, 12:15 p.m.

Mid-Southeast Chapter Association for Computing Machinery Conference, sponsored by ORNL, Riverside Motor Lodge, Gatlinburg, Tennessee.

March 23-25

Second conference on "The Use of Small Accelerators for Teaching and Research." ORAU Special Training Division.

March 24

E.T.S. Walton, 1951 Nobel Laureate in physics for invention of the Cockcroft-Walton accelerator, will speak on "Reflections on Early Accelerator Experiments." Oak Ridge Playhouse, 8 p.m. The public is invited.

COMMUNITY

March 13, 14

The Oak Ridge Community Playhouse presents final performances of "Hobson's Choice." Oak Ridge Playhouse, 8:20 p.m. Admission: $2.

March 14

Oak Ridge Civic Music Association presents Ruth Laredo, pianist, with the Oak Ridge Symphony Orchestra. Oak Ridge High School Auditorium, 8:15 p.m. Admission: Adults $3.50; Students $1.75.

March 15

The Oak Ridge Arts Center Film club presents a French film, "Shoot the Piano Player." Jefferson Junior High School, 8:00 p.m. Admission: Adults $1; Students .75c.

March 20

ORCMA Women's Guild benefit dinner-dance, Oak Ridge Country Club. Miller's style show, 7:30 p.m. (Reservations required by March 16, phone 483-6863.) Admission: $7.50 per person.

March 20, 21, 22

The Oak Ridge Community Playhouse presents a studio production, "Feiffer's People." Oak Ridge Playhouse, 8:20 p.m. Admission: Free to season ticket holders; $1 to public.

FAMOUS ATOMIC SCIENTISTS

Carbide Canoe Club Sets Meeting Tuesday

Canoe enthusiasts may be interested in the newly formed Carbide Canoe Club.

At its February 10 meeting the group elected Margo Stone, president; Reid Gryder, vice president; and Ed Sonder, secretary-treasurer.

Information, or canoe and oar prices, may be obtained from any of the above officers.

The club will meet again next Tuesday, March 17, at 7:30 p.m. at the First United Presbyterian Church, Oak Ridge.

Semi-Conductor Operations Are Sold By Union Carbide

The sale of Union Carbide's semi-conductor operations to Solitron Devices, Inc., has been announced jointly by Birny Mason, Jr., chairman of the board of Union Carbide Corporation, and Benjamin Friedman, president and chief executive officer of Solitron Devices, Inc. Included in the sale were facilities located at San Diego, Calif., and Tijuana, Mexico. The purchase price was 100,000 shares of Solitron stock plus $1,237,500 cash. Union Carbide's semi-conductor products sales were approximately $6 million in 1969.

Solitron Devices, Inc., located in Tappan, N. Y., has been a manufacturer of semi-conductor devices since 1959.

Union Carbide plans to continue its interests in the electronics industry which, at present, include a line of instruments used for monitoring air and water for pollution control purposes, tantalum, ceramic, and other capacitor products which have been the basis for Union Carbide's electronics business for many years, crystal products, and lasers and laser components. Mason said that the sale of the semi-conductor business would permit the corporation to concentrate its efforts on these other lines.